UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,632	06/13/2002	Kolja Vogel	VOGE3001/JEK	1392

23364 7590 04/11/2006	EXAMINER
BACON & THOMAS, PLLC	HOFFMAN, BRANDON S

BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314	ART UNIT	PAPER NUMBER
	2136	

DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 February 2006</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-26</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-26</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-26 are pending in this office action.

2.   Applicant's arguments, filed February 6, 2006, have been fully considered but
they are not persuasive.

Claim Rejections

3.   The text of those sections of Title 35, U.S. Code not included in this action can
be found in a prior Office action.

Claim Rejections - 35 USC § 103

4.   Claims 1-3, 5-7, 10-21, and 23-26 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Epstein (U.S. Patent Pub. No. 2002/0124176 A1) in view of Vafai et
al. (U.S. Patent No. 6,279,133).

Regarding claims 1-3 and 20, Epstein teaches a method/apparatus for
protecting data, comprising:

- Digitizing apparatus arranged to digitize a biometric feature to thereby create
digitized biometric feature data (fig. 4, ref. num 510 and 520);

- A secret data generator comprising (fig. 2, ref. num 200); and

- Encrypting and decrypting apparatus arranged to encrypt and decrypt the fault-tolerantly coded secret data with the aid of the digitized biometric feature data (fig. 2, ref. num 230 and 240);

- **Wherein an encrypted code word is decrypted on the basis of the digitized biometric feature data, thereby obtaining a decrypted code word** (fig. 4, ref. num 540).

Epstein does not teach fault-tolerantly coding/decoding the secret data, **whereby the secret data is recovered from the decrypted code word on the basis of a coding theory method with a freely selectable correction capacity.**

Vafai et al. teaches fault-tolerantly coding and decoding the secret data (fig. 4 and col. 10, lines 36-49), **whereby the secret data is recovered from the decrypted code word on the basis of a coding theory method with a freely selectable correction capacity** (fig. 4 and col. 10, lines 36-49).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to combine fault-tolerantly coding the secret data, as taught by Vafai et al., with the apparatus of Epstein. It would have been obvious for such modifications because fault-tolerantly coding data is widely in use for correcting data from disk drives and other storage (see col. 10, lines 36-49 of Vafai et al.). Correct data is needed to compare to a biometric sample.

Regarding claims 5 and 21, Epstein as modified by Vafai et al. teaches including the step of creating initial correction data to describe the space of allowed code words (see col. 9, lines 32-41 of Vafai et al.).

Regarding claims 6 and 22, Epstein as modified by Vafai et al. teaches including the step of providing initialization correction data on the basis of the digitized biometric feature data (see col. 9, lines 32-41 of Vafai et al.).

Regarding claim 7, Epstein as modified by Vafai et al. teaches including the steps of:

- Creating authentication correction data on the basis of the digitized biometric authentication feature data (see fig. 4, ref. num 510 of Epstein and col. 9, lines 32-41 of Vafai et al.);

- Recovering the digitized biometric feature data on the basis of the authentication and initial correction data (see fig. 4, ref. num 540 of Epstein);

- Decrypting encrypted secret data on the basis of the recovered digitized biometric feature data (see fig. 4, ref. num 540 of Epstein).

Regarding claim 10, Epstein as modified by Vafai et al. teaches including using user-specific initial correction data and/or user-specific fault-tolerant coding (see fig. 4 and col. 10, lines 36-49 of Vafai et al.).

Regarding claims 11, 12, 17, and 25, Epstein as modified by Vafai et al. teaches wherein the handwritten signature is broken down into a public and a secret part and the secret part is a proper subset of the dynamic information of the signature, and the separation is effected with the aid of empirical inquiries (see fig. 3, ref. num 460 of Epstein, the key pair is created to be separated – one to the access device, one to the token).

Regarding claims 13 and 23, Epstein as modified by Vafai et al. teaches wherein a hash value is created from the digitized biometric feature data with the aid of a hash function (see fig. 3, ref. num 420 of Epstein).

Regarding claims 14 and 24, Epstein as modified by Vafai et al. teaches wherein a hash value is created from the digitized biometric authentication feature data with the aid of a hash function (see fig. 3, ref. num 420 of Epstein).

Regarding claim 15, Epstein as modified by Vafai et al. teaches wherein the biometric feature is a behavioral biometric (see paragraph 0004 of Epstein).

Regarding claims 16 and 26, Epstein as modified by Vafai et al. teaches wherein the biometric feature consists of a handwritten signature (see paragraph 0004 of Epstein).

Regarding claim 18, Epstein as modified by Vafai et al. teaches wherein the

providing and/or digitizing of the biometric feature is effected several times (see

paragraph 0026 of Epstein).

Regarding claim 19, Epstein as modified by Vafai et al. teaches wherein the

secret data are generated with a public-key method (see fig. 3, ref. num 460 of Epstein).

Claims 4, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Epstein (USPN 2002/0124176 A1) in view of Vafai et al. (USPN '133), and further

in view of Camp, Jr. et al. (U.S. Patent No. 6,075,987).

Regarding claim 4, Epstein as modified by Vafai et al. teaches all the limitations

of claims 1-3, above. However, Epstein as modified by Vafai et al. does not teach

wherein the code word is generated by a generating matrix.

Camp, Jr. et al. teaches wherein the code word is generated by a generating

matrix (col. 9, lines 9-23).

It would have been obvious to one of ordinary skill in the art, at the time the

invention was made, to combine using a matrix for generating a code word, as taught by

Camp, Jr. et al., with the method of Epstein/Vafai et al. It would have been obvious for

such modifications because a generating matrix doesn't add any parity bits to the end of the plain text word to make them code words.

Regarding claims 8 and 9, Epstein as modified by Vafai et al. teaches all the limitations of claims 1 and 7, above. However, Epstein as modified by Vafai et al. does not teach wherein the initial correction data are created by calculation of the digitized biometric feature data modulo n, and the authentication correction data are created by calculation of the authentication feature data modulo n.

Camp, Jr. et al. teaches wherein the initial correction data are created by calculation of the digitized biometric feature data modulo n, and the authentication correction data are created by calculation of the authentication feature data modulo n (col. 3, lines 31-43).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to combine creating data by modulo n, as taught by Camp, Jr. et al., with the method of Epstein/Vafai et al. It would have been obvious for such modifications because modulo arithmetic makes it significantly hard to recreate the data without prior knowledge of other information.

Response to Arguments

5.   Applicant amends claims 1 and 20.

6.   Applicant argues:

a.   The references do not teach secret data can be recovered from a

decrypted code word using a coding-theory method with a freely selectable

correction capacity; nor is there motivation to combine or expectation of success

(page 15 through page 19, second paragraph).

b.   The references do not teach behavioral biometrics; nor is there motivation

to combine or expectation of success (page 19 through page 21).

c.   The references do not teach generating the code word with a generating

matrix (page 22 through page 23).

Regarding argument (a), examiner disagrees with applicant. Vafai et al. teaches

error correction of input codes (fig. 4) by using, i.e., Hamming code and Reed-Solomon

code (col. 10, lines 36-49). These are examples of "syndrome-based" mechanisms for

decoding a code word with error correction with freely selectable correction capacity.

The error corrected codes are recovered in that they can be successfully used. Vafai et

al. is silent on error correcting secret data, however, Epstein discloses secret data (fig.

2, ref. num 200). The motivation to combine is that Vafai et al. is concerned with

successfully recovering data that was stored with extra encoded data. By recovering

the data after decoding, a user is able to manipulate the recovered data in any way they

deem necessary. Epstein utilizes data for creating a comparing biometric data.

Regarding argument (b), examiner disagrees with applicant. Epstein discloses

voiceprints as one option of biometric data. As anyone clearly knows, voices change

depending on mood and would therefore classify as a behavioral biometric data. The motivation to combine is irrelevant because Epstein is the reference who is teaching the biometric data; therefore, there is no combination of references.

Regarding argument (c), examiner disagrees with applicant. The creation of the code word is performed in claim 3. Claim 4 states that a generating matrix generates the code word. Examiner is not sure how a code word is created by fault-tolerant coding (claim 3), and then be further limited by being generated by a generating matrix (claim 4 – depends from claim 3). Creating and generating are synonymous terms. As such, the code word is created by fault-tolerantly coding the secret data, as taught by Vafai et al. in the rejection of claim 1.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon S. Hoffman whose telephone number is 571-272-3863. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BH

CHRISTOPHER REVAK
PRIMARY EXAMINER